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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,631	02/18/2004	Hiroshi Yao	248960US2RDDIV	9086

22850 7590 07/29/2008

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EXAMINER
HARVEY, DAVID E

ART UNIT	PAPER NUMBER
2621	

NOTIFICATION DATE	DELIVERY MODE
07/29/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/779,631	YAO ET AL.	
	Examiner	Art Unit	
	DAVID E. HARVEY	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,15 and 16* is/are rejected.

7)☒ Claim(s) *2-14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/409,424.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/18/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The following references are noted:

A) US Patent #6,463,508 to Wolfe et al:

It is noted that US Patent #6,463,508 to Wolfe et al is an intervening reference having a filing date that predates the effective filing date of the instant application, but is subsequent to the claim to priority. Thus, this reference qualifies as "prior art" under section 102(e) until such time that a certified translation of the foreign priority document(s) are submitted and priority with respect to that which is claimed is established.

It is further noted that US Patent #6,463,508 to Wolfe et al teaches:

1) That the time that it takes for a receiver to retrieve the initial segment of a requested A/V program determines the latency time to the users **[note lines 20-21 of column 4]**; and, as such,

2) By segmenting "requestable" A/V programs into a plurality of smaller size segments, and caching the initial segments of each of the "requestable" A/V programs in cache memory of the receiver, such latency can be eliminated **[note lines 15-26 of column 4]**.

B) US Patent #6,144,400 to Ebisawa:

It is maintained that a showing, similar to that set forth above with respect to the US Patent #6,463,508 to Wolfe et al, is found in Ebisawa. Specifically, that:

1) By segmenting "requestable" A/V programs into a plurality of smaller size segments, and caching the initial segments of each of the "requestable" A/V programs in cache memory of the receiver, such latency can be eliminated **[note: lines 31-36, 44-48, and 58-65 in column 1]**.

2. Claims 11 and 14 are objected to because of the following informalities:

1) It appears that claim 11 should depend from one of claims 9 and 10 given that the claims refers to "each candidate segment"; and

2) The recitation of "realizes a referring to" appears to be grammatically incorrect and, as such, clarification is suggested.

Appropriate correction is required.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission of prior art in view of US Patent #6,070,226 to Freeman et al and one of:

A) US Patent #6,463,508 to Wolfe et al.; and

B) US Patent #6,144,400 to Ebisawa.

I. The admitted "prior art":

Under the heading "Description of the Background Art" appearing on pages 1-5 of the instant disclosure, applicant acknowledges that hierarchical storage devices, similar to the type being claimed in claim 1, were known and conventional; i.e. specifically, that it was conventional and known for such hierarchical storage devices to have comprised:

1) A "slow" library storage and retrieval device for storing units of A/V programming;

2) A "faster" cache storage and retrieval device for storing selected portions of the A/V programming obtained from the library so that said portions can be provided "instantaneously", i.e., upon request/demand, to a given user; and

3) A control unit, running a selected one of various known cache management algorithms, in an attempt to keep the most frequently requested portion of the programming cached in the cache memory thereby minimizing overall latency to the user(s).

II. Differences:

Claim 1 differs from the admitted "prior art" in that claim 1 recites:

1) "Sub-dividing" the program/data streams in the library into segments;

2) Providing a memory for storing information pertaining to potential random access points of each of the segments; and

3) Controlling the caching of the segments in the cache memory, via the control unit, according to the stored random access information.

III. The showings of Freeman et al. , Wolfe et al., and Ebisawa:

A) Freeman et al. is cited to evidence the fact that those skilled in the art had indeed recognized the desire to configure "the control unit" of the hierarchical storage devices with an management algorithm which permits the prefetching

and caching, in the cache storage device, of the information from the library storage device that the highest probability of being accessed by the user(s) in the future so as to reduce latency [e.g., note: lines 51-54 of column 1; and lines 5-17 in column 2].

B) As noted above in paragraph 1 of this Office action, it is maintained that each of Wolfe et al. and Ebisawa evidence that it was known to those of ordinary skill in the hierarchical retrieval art to have reduced latency to the user by:

1) Segmenting each of the programs that are to be retrieved upon request by the user; and

2) Prefetching and caching the initial segment of each of the programs being that they represent the initial entry points into said programming (i.e., the "potential random access points").

IV. Obviousness:

A) As evidenced by the showing of Freeman et al. the examiner maintains that it would have been obvious to one of ordinary skill in the art to have modified the admitted "prior art" described by applicant so as to have comprised an cache management algorithm for attempting to determine which portions of the data stored in the library memory are most likely to be accessed by the user(s) in the future and, based on this determination/prediction, prefetching and caching said portions in the cache storage device; and

B) In light of the teachings of either one Wolfe et al. and Ebisawa, to have implemented the modification of the admitted prior art, in accordance with the teaching of Freeman et al., by dividing the programs in the library into segments and using an management algorithm that performs said determination/prediction by identifying, prefetching, and caching those of the segments that correspond to the "random access" entry point segments of said programs (i.e., the initial segments of the programs). The examiner maintains that the information that would be required to identify a segment as being an initial segment, and hence identifying those segments that are not initial segments, would have to be stored via a "memory unit" somewhere within the system (i.e., even if the information simply pertained to header information of the program streams themselves).

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission of prior art in view of US Patent #6,070,226 to Freeman et al and one of:

A) US Patent #6,463,508 to Wolfe et al.; and

B) US Patent #6,144,400 to Ebisawa

for the same reasons explained above with respect to claim 1. Additionally:

It is noted that, in the modified "prior art", the start position of a sequentially accessed program would be "estimated" based on the determination of the segment that represent the initial random access point of the program that is requested via a request from a given the user for the reproduction of that program.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission of prior art in view of US Patent #6,070,226 to Freeman et al and one of:

A) US Patent #6,463,508 to Wolfe et al.; and

B) US Patent #6,144,400 to Ebisawa

for the same reasons explained above with respect to claim 1.

7. US Patent #5,754,730 to Windrem et al and US Patent #5,787,472 to Dan et al are cited for illustrating conventional caching systems.

8. Claims 2-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID E. HARVEY whose telephone number is (571) 272-7345. The examiner can normally be reached on M-F from 7 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/DAVID E HARVEY/

Primary Examiner, Art Unit 2621

DAVID E HARVEY
Primary Examiner
Art Unit 2621